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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/639,636	08/15/2000	Renato Guida	RD-25,905/USA	3536

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GENERAL ELECTRIC COMPANY
GLOBAL RESEARCH CENTER
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EXAMINER

LUK, EMMANUEL S

ART UNIT	PAPER NUMBER
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1722

DATE MAILED: 11/21/2002

5

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/639,636

Applicant(s)

GUIDA ET AL.

Examiner

Emmanuel S. Luk

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 August 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 and 15-21 is/are pending in the application.
- 4a) Of the above claim(s) 1-9 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 18-21 is/are allowed.
- 6) ☒ Claim(s) 10-12 and 15-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-9, drawn to method, classified in class 430, subclass 320.
 - II. Claims 10-12 and 15-21, drawn to an apparatus, classified in class 425, subclass 174.4.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions I and II are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case the apparatus as claimed can be used in another and materially different process such as etching a printed circuit board.
3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.
4. During a telephone conversation with Ann Agost on January 15, 2002 a provisional election was made without traverse to prosecute the invention of Group II, claims 10-12 and 15-21. Affirmation of this election must be made by applicant in replying to this Office action. Claims 1-9 withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

5. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 15-17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 15-17 are broad since the claims do not positively claim the limitations. Merely being capable of a limitation does not positively claim the limitation in an apparatus claim.

Information Disclosure Statement

8. An information disclosure statement has been listed as being submitted by the applicants. However, the statement form cannot be found in the application. Applicants have provided an IDS form and two PTO-892 forms from the parent case, however, the actual IDS form has not been provided.

Claim Rejections - 35 USC § 102

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claim 10, 11 and 15-17 are rejected under 35 U.S.C. 102(b) as being anticipated by Lambda Physik Industrial Report.

Lambda Physik teaches a system (Fig. 6) creating microholes by laser ablation, the system having a high power laser for providing laser light, a beam homogenizer for conditioning the laser light, a phase mask for creating a pattern of the conditioned laser light and a substrate that is ablated by the laser with a pattern. The lens for focusing the pattern of conditioned light is an objective lens (Fig. 1, page 7), a 5x lens (MicroLas objective 5x/18-248) is used for demagnification (page 8).

The substrate for an anti-scatter x-ray grid is a product of the system and is an intended use of an apparatus claim. In regards to claims 15-17, the conditioned light of the laser from the homogenizer and mask (Fig. 1) is capable of the focused patterns and is an intended use of the apparatus for forming the desired product.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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11. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

12. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lambda Physik Industrial Report in view of Konishi.

Lambda Physik teaches the claimed apparatus as shown in the above paragraph.

Lambda Physik fails to teach an objective lens that is an axial gradient-index lens.

Konishi teaches an objective lens system having a a first lens unit composed of a cemented lens component comprising at least one gradient index lens, the gradient index lens having a concave surface on the object side and a refractive index varying dependently on distances as measured from the optical axis in the radial direction (Col. 2, lines 19-25).

It would have been obvious to one of ordinary skill in the art to modify Lambda Physik with an axial gradient index lens as taught by Konishi because it allows for lens element that have refractive indices varying dependently on distances as measured from an optical axis in a radial direction (Col. 1, lines 6-9).

Allowable Subject Matter

13. Claims 18-21 allowed.

14. The following is an examiner's statement of reasons for allowance: The prior art of record fails to teach or suggest a system having a laser beam, phase mask, beam homogenizer, means for ablating portions of the substrate through the phase mask, means for filling the ablated portions of the substrate and means for removing additional portions of the substrate while selected portions remain. The closest prior art, Lambda Physik, fails to teach the means for filling the ablated portions of the substrate and means for removing the removing additional portions of the substrate. Other prior art of record fails to teach a homogenizer and the means for filling the ablated portions and means for removing additional ablated portions.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Penney et al, Lawandy, Gordon et al and Hasegawa.

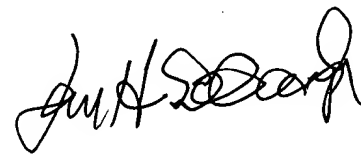
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16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Emmanuel S. Luk whose telephone number is (703) 305-1558. The examiner can normally be reached on Monday through Friday 8 to 4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jan S. Silbaugh can be reached on (703) 308-3829. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0651.

E.L.
November 15, 2002



JAN H. SILBAUGH
SUPERVISORY PATENT EXAMINER
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11/18/02